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POLYMER PRODUCTS DEPARTMENT  
EXPERIMENTAL STATION

PERSONAL AND CONFIDENTIAL

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Pral File  
I.C.

AR 226-1606

November 3, 1981

TO: DR. Y. L. POWER - PPD, Parkersburg

FROM: S. S. STAFFORD *S.S. Staffor*

ANALYSIS OF BLOOD SAMPLES FOR PERFLUOROOCTANOATE  
(Job No. 810-578; PRAL Nos. 81-4871-4912; Notebook Nos. E22514, E26238, E27432)

As requested in your letter of 10/20/81 to L. J. Papa, the 42 blood samples submitted then have been analyzed for perfluorooctanoate ( $C_8$ ) by the usual gas chromatographic method ES-567. Results and sample identification are given in the attached table.

Attachment  
jah

Key Words:  
Perfluorooctanoate  
GC  
Blood Analysis

There's a world of things we're doing something about

EXP000066  
EID713880

000159

TABLE I  
CONCENTRATION OF PERFLUOROOCTANOATE IN BLOOD (a)

<u>Sample PRAL No.</u>	<u>Date Sampled</u>	<u>P.R. No.</u>	<u>Name</u>	<u>GC Analysis</u>	<u>(b) [Cr], ug F/g blood</u>
				<u>Date Analyzed</u>	
81-4871	10/6/81	1952		10/23 & 10/26/81	0.45
81-4872	10/7/81	4720		10/26/81	0.039
81-4873	10/7/81	4754		10/26/81	0.021
81-4874	10/7/81	4733		10/23/81	0.061
81-4875	10/7/81	4755		10/23/81	0.0073
81-4876	10/7/81	4756		10/23/81	<0.007
81-4877	10/7/81	3578		10/28/81	0.78
81-4878	10/7/81	W.S.		10/23/81	0.30
81-4879	10/8/81	953		10/23/81	11.
81-4880	10/8/81	3519		10/23/81	0.19
81-4881	10/9/81	4538		10/28/81	1.2
81-4882	10/9/81	4146		10/28/81	1.3
81-4883	10/9/81	4360		10/28/81	0.32
81-4884	10/9/81	4354		10/26/81	0.41
81-4885	10/12/81	3753		10/26/81	0.18
81-4886	10/12/81	W.S.		10/27/81	1.5
81-4887	10/12/81	4058		10/28/81	0.27
81-4888	10/12/81	W.S.		10/26/81	0.11
81-4889	10/13/81	W.S.		10/27/81	2.5
81-4890	10/13/81	4614		10/26/81	0.013
81-4891	10/13/81	4730		10/26 & 10/28/81	0.010
81-4892	10/13/81	4663		10/27/81	0.039
81-4893	10/13/81	4109		10/27 & 10/29/81	0.17
81-4894	10/13/81	W.S.		10/27/81	0.44
81-4895	10/13/81	W.S.		10/27 & 10/29/81	0.26
81-4896	10/13/81	4825		10/27/81	n.d.
81-4897	10/13/81	4760		10/27/81	0.015
81-4898	10/14/81	1643		10/27/81	0.87
81-4899	10/14/81	1978		10/27/81	4.5
81-4900	10/14/81	4530		10/27/81	0.74
81-4901	10/14/81	4675		10/27/81	1.4
81-4902	10/15/81	4231		10/27/81	0.75
81-4903	10/15/81	4290		10/27/81	0.080

EXP000067

\*REDACTED\* EID713881

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TABLE I  
CONCENTRATION OF PERFLUOROOCTANOATE IN BLOOD (a)

<u>Sample</u>			<u>GC Analysis</u>	(b)	
<u>PRAL No.</u>	<u>Date Sampled</u>	<u>P.R. No.</u>	<u>Name</u>	<u>Date Analyzed</u>	<u>[C<sub>8</sub>], µg F/g blood</u>
81-4904	10/15/81	3520		10/29/81	3.6
81-4905	10/15/81	4226		10/28/81	0.010
81-4906	10/15/81	4568		10/29/81	0.71
81-4907	10/15/81	1697		10/28/81	0.15
81-4908	10/16/81	1447		10/29/81	0.43
81-4909	10/16/81	W.S.		10/28/81	0.16
81-4910	10/19/81	W.S.		10/28/81	0.15
81-4911	10/19/81	596		10/29/81	0.069
81-4912	10/19/81	W.S.		10/29/81	0.65

- (a) Analysis as described in Lab Method ES-567 ("Determination of Perfluorooctanoic Acid in Blood, Gas Chromatographic Method", S. Stafford, 4/3/81), using the packed column GC analysis with perfluoro-n-octanoic acid as calibration standard.
- (b) Although the analysis is specifically for perfluorooctanoate (acid or salts), concentrations are given in ppm fluorine for comparison with the results of total organic fluorine analyses. ( $\text{ppm F} = 0.688 \times \text{ppm perfluorooctanoic acid}$ ) Estimated uncertainty is  $\pm 10\%$  relative standard deviation. The lower limit for quantitation is  $0.007 \mu\text{gF/g}$ . The detection limit is  $\sim 0.004 \mu\text{gF/g}$ , but concentrations in that range cannot be well quantitated and are reported as  $< 0.007$ . None detected (n.d.) is reported for samples with  $[\text{C}_8] \leq 0.004 \text{ ppm}$ , which cannot be distinguished from reagent background.

EXP000068  
\*REDACTED\* EID713882

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